

What is claimed is:

1. An apparatus to communicate a set of data symbols $d(i)$ where $i = 1, \dots, n$, the apparatus comprising:

a set of transmission lines $l(i)$ where $i = 1, \dots, n$, where transmission line $l(i)$ propagates a signal $x(i)$ for $i = 1, \dots, n$;

a set of receivers $r(i)$ where $i = 1, \dots, n$, wherein receiver $r(i)$ is connected to transmission line $l(i)$ to receive the signal $x(i)$ for each $i = 1, \dots, n$;

a set of drivers $t(i)$ where $i = 1, \dots, n$, where driver $t(i)$ is connected to transmission line $l(i)$ to transmit the signal $x(i)$ for each $i = 1, \dots, n$; and

a mapper to map the set of data symbols $d(i)$ to the signals $x(i)$ for $i = 1, \dots, n$, wherein for each $i = 1, \dots, n$, $x(i)$ is a function of $d(i)$ and at least one $d(j)$ for $j \neq i$.

2. The apparatus as set forth in claim 1, wherein the mapper comprises:

a table, wherein the table stores words addressed by the set of data symbols, wherein for each $i = 1, \dots, n$, the driver $t(i)$ transmits the signal $x(i)$ in response to a word stored in the table.

3. The apparatus as set forth in claim 1, wherein the mapper comprises:

a finite state machine, wherein the finite state machine in response the set of data symbols provides words to the set of drivers, wherein for each $i = 1, \dots, n$ driver $t(i)$ transmits the signal $x(i)$ in response to a word.

4. The apparatus as set forth in claim 1, wherein the set of transmission lines is such that transmission line $l(i)$ for an i has capacitive coupling with another transmission line $l(j)$ where $j \neq i$.

5. The apparatus as set forth in claim 1, wherein for each $i = 1, \dots, n$, receiver $r(i)$ provides an estimate of $d(i)$ based upon the signal $x(i)$ independently of $x(j)$ for $j \neq i$.

6. The apparatus as set forth in claim 5, wherein the mapper comprises:
a table, wherein the table stores words addressed by the set of data symbols,
wherein for each $i = 1, \dots, n$ driver $t(i)$ transmits the signal $x(i)$ in response to a word stored in the table.

7. The apparatus as set forth in claim 5, wherein the mapper comprises:
a finite state machine, wherein the finite state machine in response the set of data symbols provides words to the set of drivers, wherein for each $i = 1, \dots, n$ driver $t(i)$ transmits the signal $x(i)$ in response to a word.

8. The apparatus as set forth in claim 5, wherein the set of transmission lines is such that transmission line $l(i)$ for an i has capacitive coupling with another transmission line $l(j)$ where $j \neq i$.

9. A computer system comprising:

a set of transmission lines $l(i)$ where $i = 1, \dots, n$, where transmission line $l(i)$ propagates a signal $x(i)$ for $i = 1, \dots, n$;

a first die comprising:

a set of drivers $t(i)$ where $i = 1, \dots, n$, where driver $t(i)$ is connected to transmission line $l(i)$ to transmit the signal $x(i)$ for each $i = 1, \dots, n$;

a mapper to map a set of data symbols $d(i)$ to the signals $x(i)$ for $i = 1, \dots, n$, wherein for each $i = 1, \dots, n$, $x(i)$ is a function of $d(i)$ and at least one $d(j)$ for $j \neq i$; and

a second die, the first die connected to the second die by the set of transmission lines, the first die to communicate the set of data symbols $d(i)$ where $i = 1, \dots, n$ to the second die, the second die comprising:

a set of receivers $r(i)$ where $i = 1, \dots, n$, wherein receiver $r(i)$ is connected to transmission line $l(i)$ to receive the signal $x(i)$ for each $i = 1, \dots, n$.

10. The apparatus as set forth in claim 9, wherein the mapper comprises:

a table, wherein the table stores words addressed by the set of data symbols, wherein for each $i = 1, \dots, n$ driver $t(i)$ transmits the signal $x(i)$ in response to a word stored in the table.

11. The apparatus as set forth in claim 9, wherein the mapper comprises:

a finite state machine, wherein the finite state machine in response the set of data symbols provides words to the set of drivers, wherein for each $i = 1, \dots, n$ driver $t(i)$ transmits the signal $x(i)$ in response to a word.

12. The apparatus as set forth in claim 9, wherein the set of transmission lines is such that transmission line $l(i)$ for an i has capacitive coupling with another transmission line $l(j)$ where $j \neq i$.

13. The apparatus as set forth in claim 9, wherein for each $i = 1, \dots, n$, receiver $r(i)$ provides an estimate of $d(i)$ based upon the signal $x(i)$ independently of $x(j)$ for $j \neq i$.

14. The apparatus as set forth in claim 13, wherein the mapper comprises:
a table, wherein the table stores words addressed by the set of data symbols,
wherein for each $i = 1, \dots, n$ driver $t(i)$ transmits the signal $x(i)$ in response to a word stored in the table.

15. The apparatus as set forth in claim 13, wherein the mapper comprises:
a finite state machine, wherein the finite state machine in response the set of data symbols provides words to the set of drivers, wherein for each $i = 1, \dots, n$ driver $t(i)$ transmits the signal $x(i)$ in response to a word.

16. The apparatus as set forth in claim 13, wherein the set of transmission lines is such that transmission line $l(i)$ for an i has capacitive coupling with another transmission line $l(j)$ where $j \neq i$.

17. A method to provide crosstalk equalization, the method comprising:

mapping a set of data symbols $d(i)$, $i = 1, \dots, n$ to a set of signals $x(i)$, $i = 1, \dots, n$, wherein for each $i = 1, \dots, n$, $x(i)$ is a function of $d(i)$ and at least one $d(j)$ for $j \neq i$; and

transmitting the set of signals on a set of transmission lines $l(i)$, $i = 1, \dots, n$, where for each $i = 1, \dots, n$, $x(i)$ is transmitted on transmission line $l(i)$.

18. The method as set forth in claim 17, further comprising:

receiving the set of signals by a set of receivers $r(i)$ where $i = 1, \dots, n$, wherein for each $i = 1, \dots, n$, receiver $r(i)$ estimates the data symbol $d(i)$ based upon the signal $x(i)$ independently of the signals $x(j)$ for $j \neq i$.

19. A set of drivers $t(i)$, where $i = 1, \dots, n$, to communicate a set of data symbols $d(i)$, where $i = 1, \dots, n$, where driver $t(i)$ is to transmit a signal $x(i)$ for each $i = 1, \dots, n$, the set of drivers comprising:

a mapper to map the set of data symbols $d(i)$ to the signals $x(i)$ for $i = 1, \dots, n$, wherein for each $i = 1, \dots, n$, $x(i)$ is a function of $d(i)$ and at least one $d(j)$ for $j \neq i$.

a finite state machine, wherein the finite state machine in response the set of data symbols provides words to the set of drivers, wherein for each $i = 1, \dots, n$, driver $t(i)$ transmits the signal $x(i)$ in response to a word.

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	